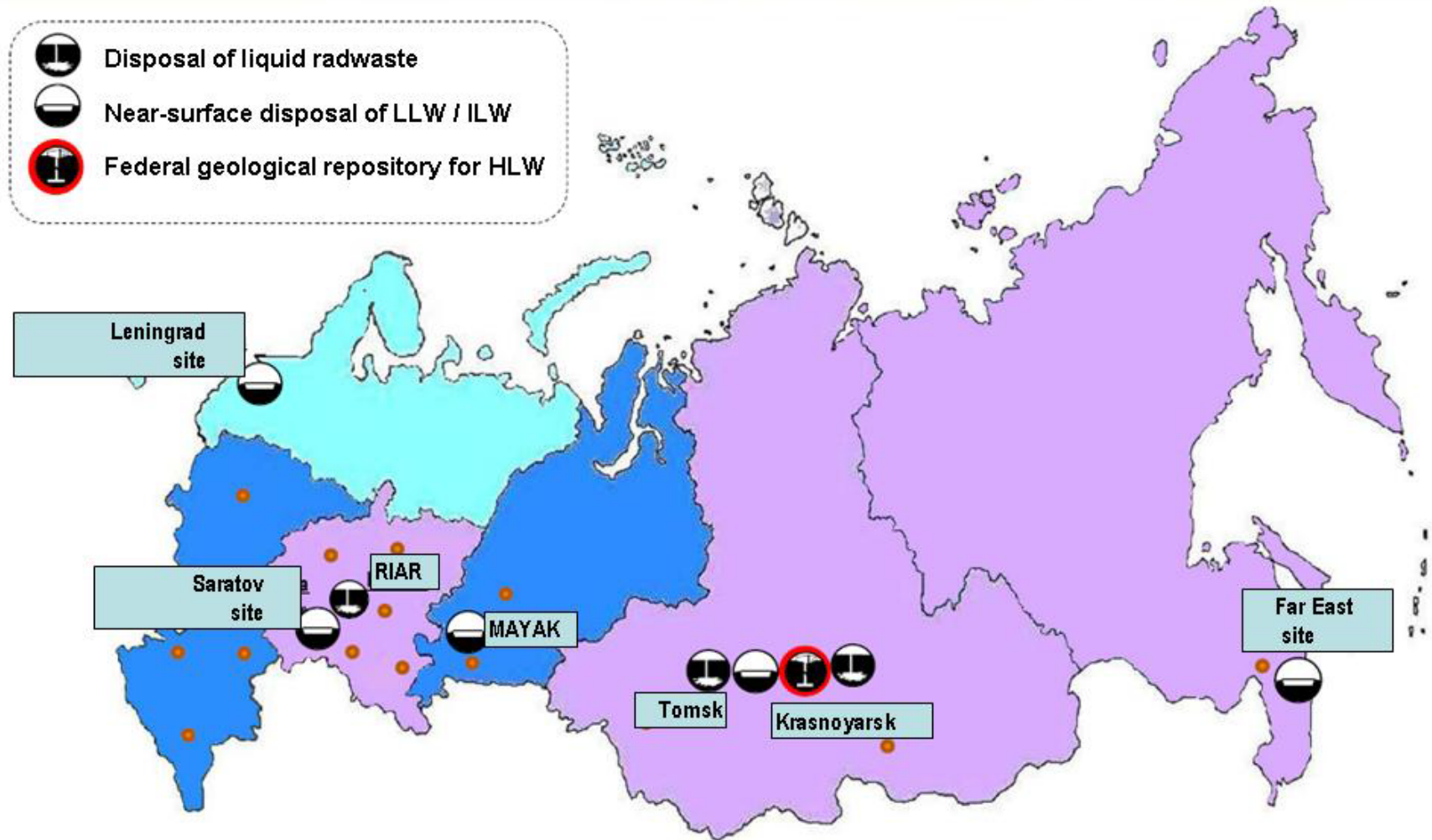


*A.Yu. Gagarinskiy, NRC “Kurchatov Institute”, Russia*

# Radioactive waste management in the Russian nuclear development strategy: a view of the Kurchatov Institute

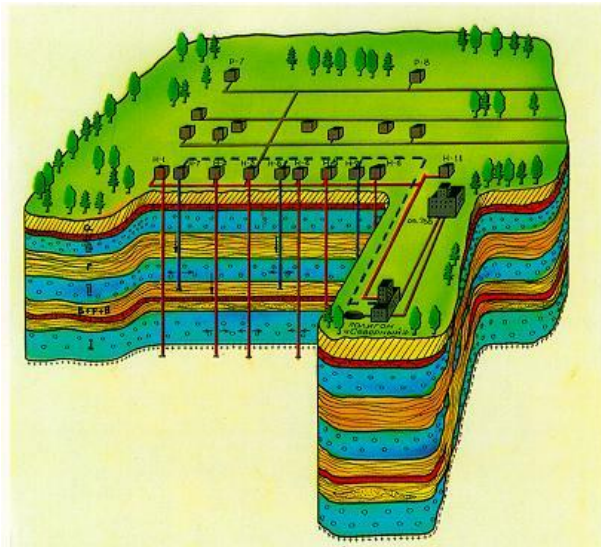


# Siting of radwaste repositories: short-term perspective



# Underground disposal of liquid radioactive waste

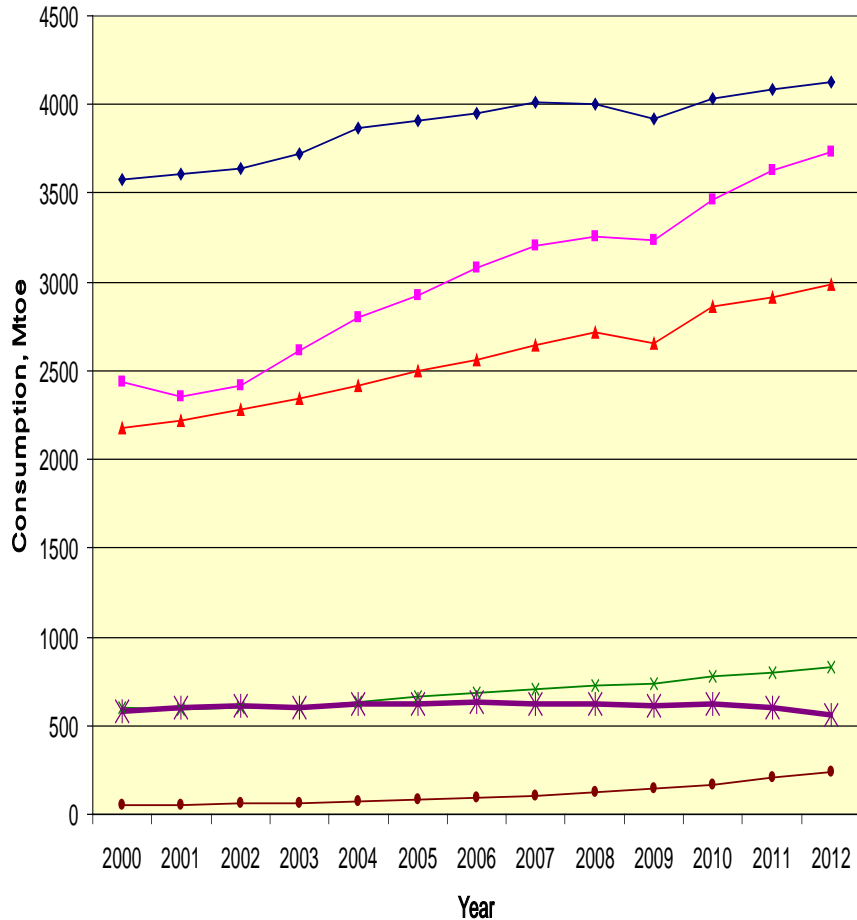
Plant	Disposal depth, m	LRW amount stored, mln m <sup>3</sup>	Start of operation, year
Siberian Chemical Plant, Seversk	270–390	43	1963
Mining & Chemical Plant, Zheleznogorsk	180–500	6	1967
Research Institute of Atomic Reactors, Dimitrovgrad	1100–1600	3	1966



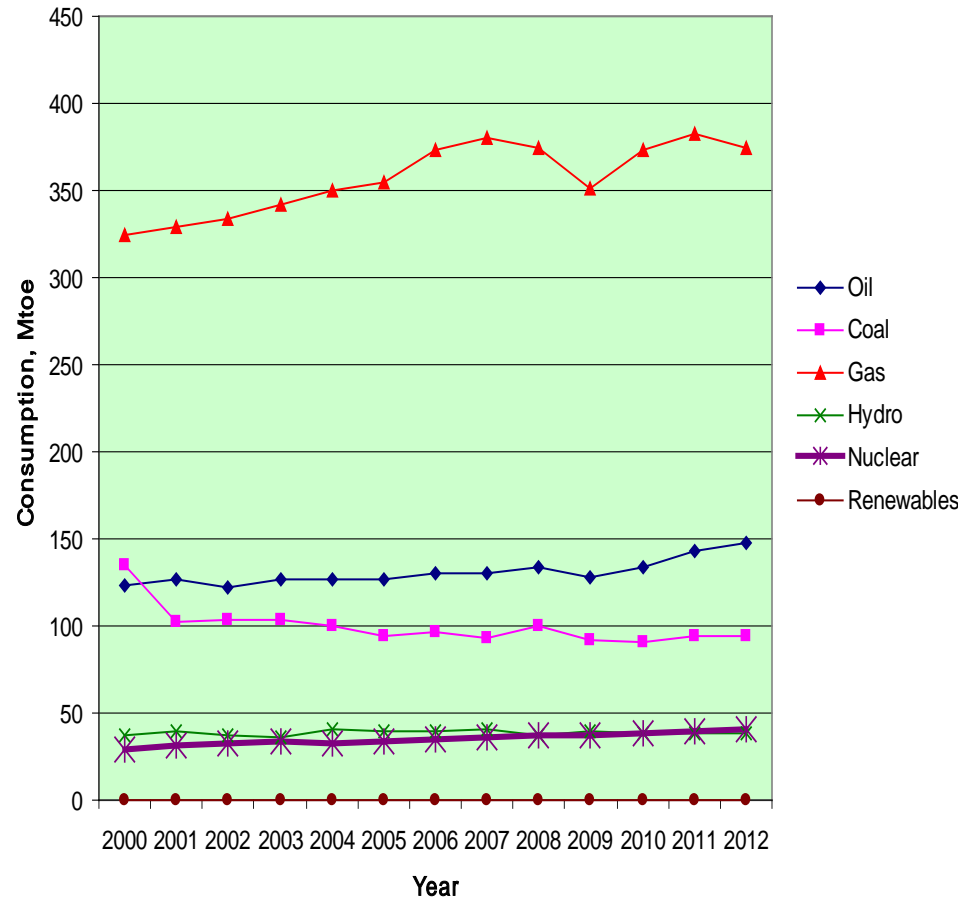
LRW storage facility, Zheleznogorsk

# Primary energy trends of the 21<sup>st</sup> century

## World



## Russia

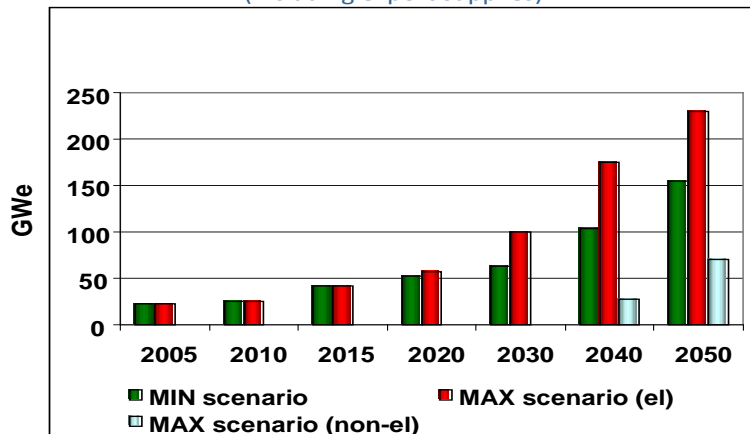


# Russia's nuclear power strategy

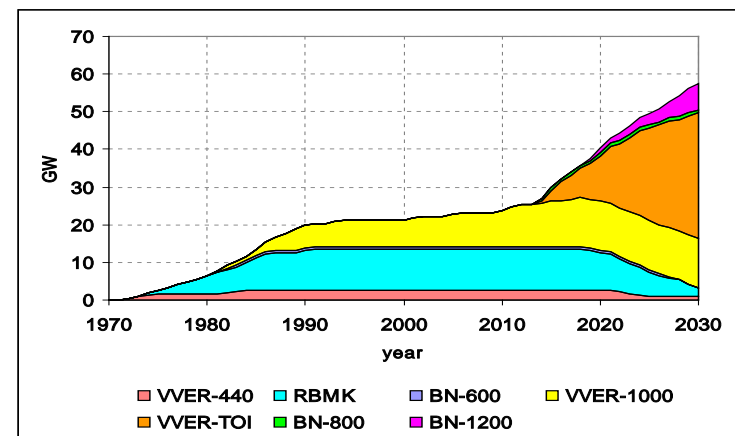
- Nuclear power is an integral part of Russia's energy industry, both today and in the foreseeable future. Its available technological potential assures the possibility of its development on the long term.
- Large-scale nuclear energy deployment involves the closing of fuel cycle to solve the resource issue by involving U-238 and Th-232 in the energy generation cycle, with centralized SNF reprocessing, along with reliable disposal of radioactive waste.

## Installed nuclear capacities in Russia

Mid-term forecast  
(including export supplies)



Latest short-term estimations



# NPPs currently under construction in Russia: commissioning dates as by mid-2013



**Novovoronezh NPP-II**  
Unit 1 – 2014; unit 2 – 2015



**Beloyarsk NPP (BN-800)**  
2014



**FNPP (2x KLT-40S)**  
2016



**Leningrad NPP-II**  
Unit 1 – 2015; unit 2 – 2016

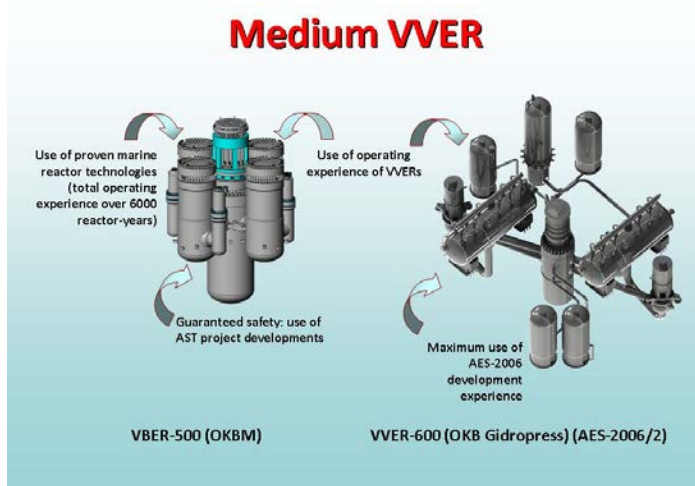
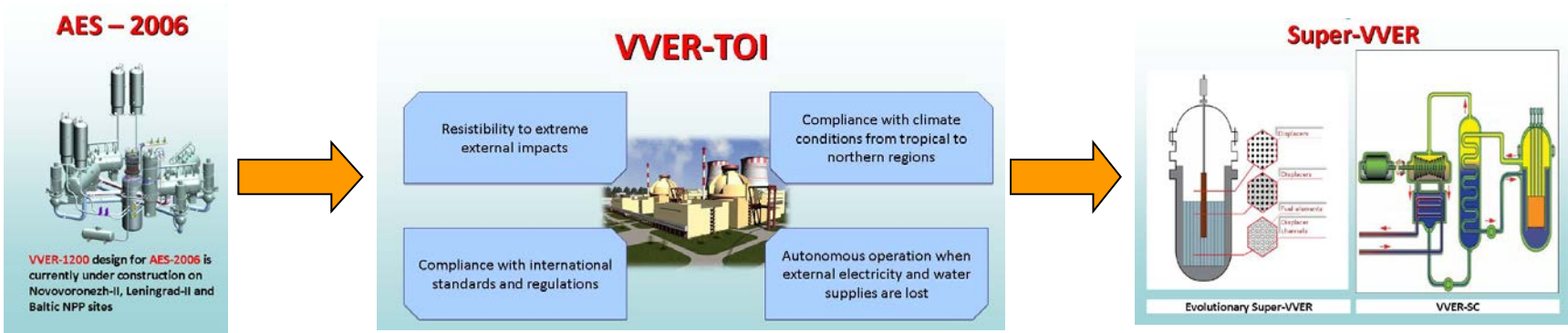


**Rostov NPP**  
Unit 3 – 2014; unit 4 – 2017



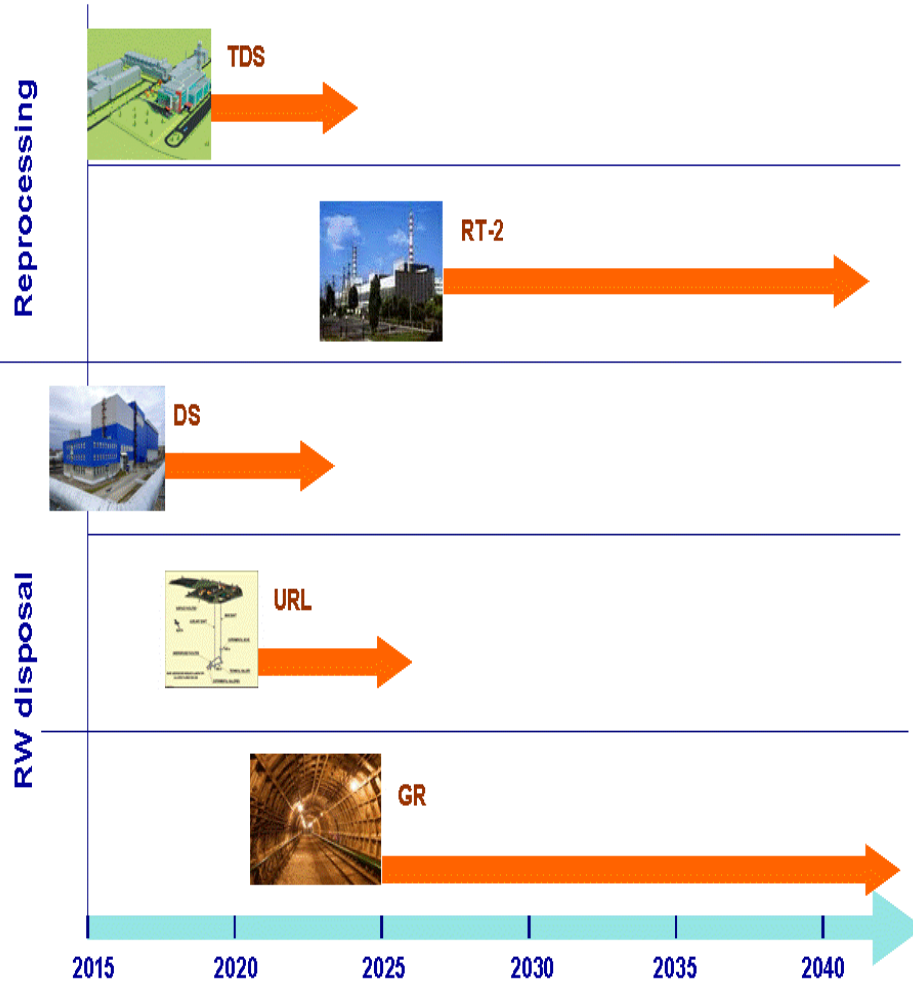
**Baltic NPP**  
Unit 1 – 2017; unit 2 – 2018

# Water-water nuclear technology development in Russia's nuclear industry

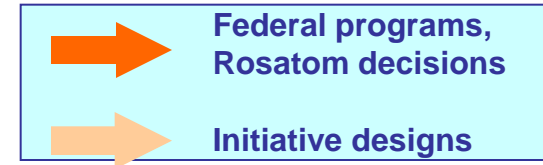


# Russia's nuclear fuel cycle back-end roadmap

## Nuclear fuel cycle back-end

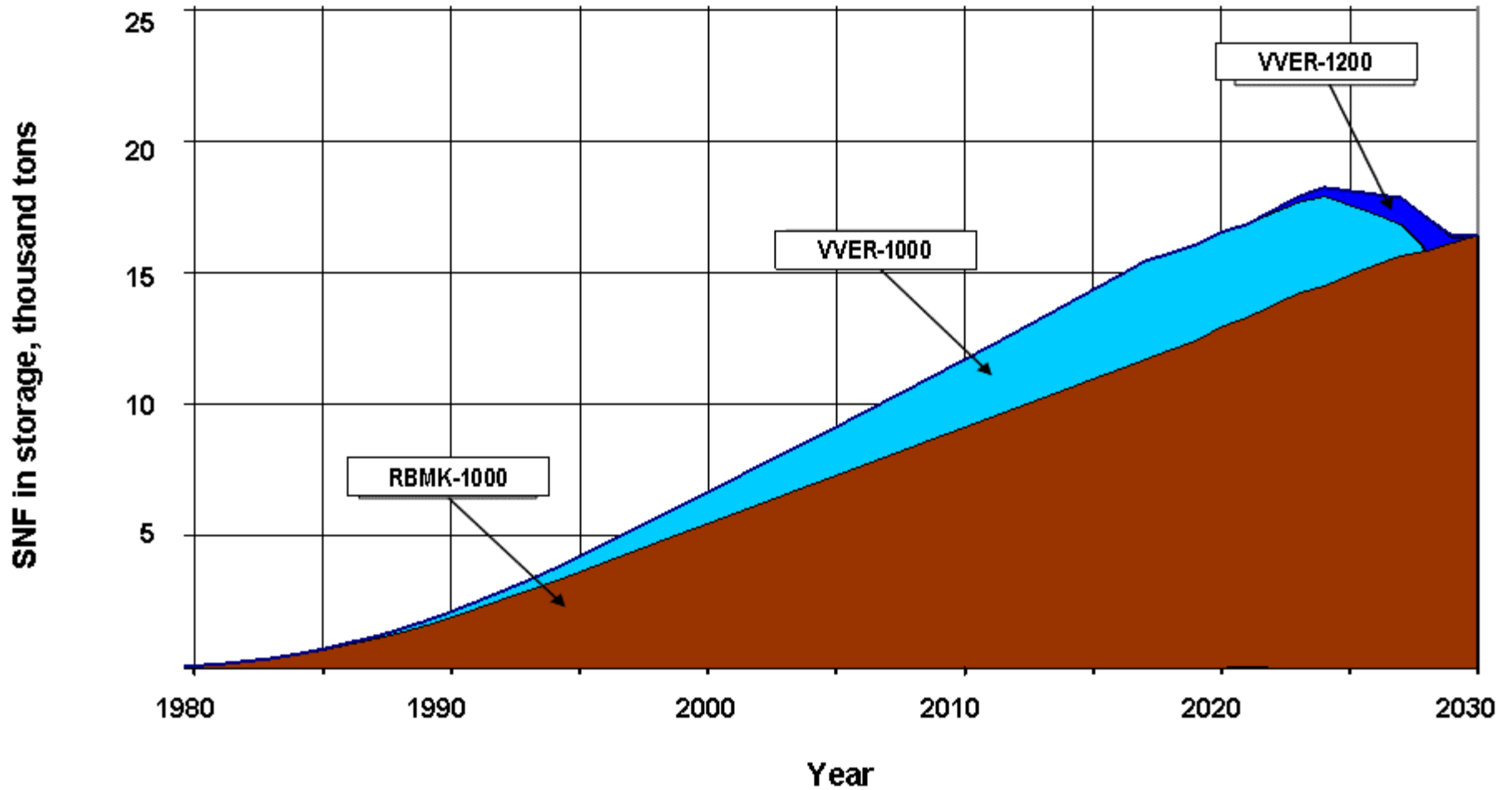


- TDS - Trial & Demonstration Centre
- RT-2 - Reprocessing plant
- DS - Dry Storage
- URL - Underground Research Laboratory
- GR - Geological Repository

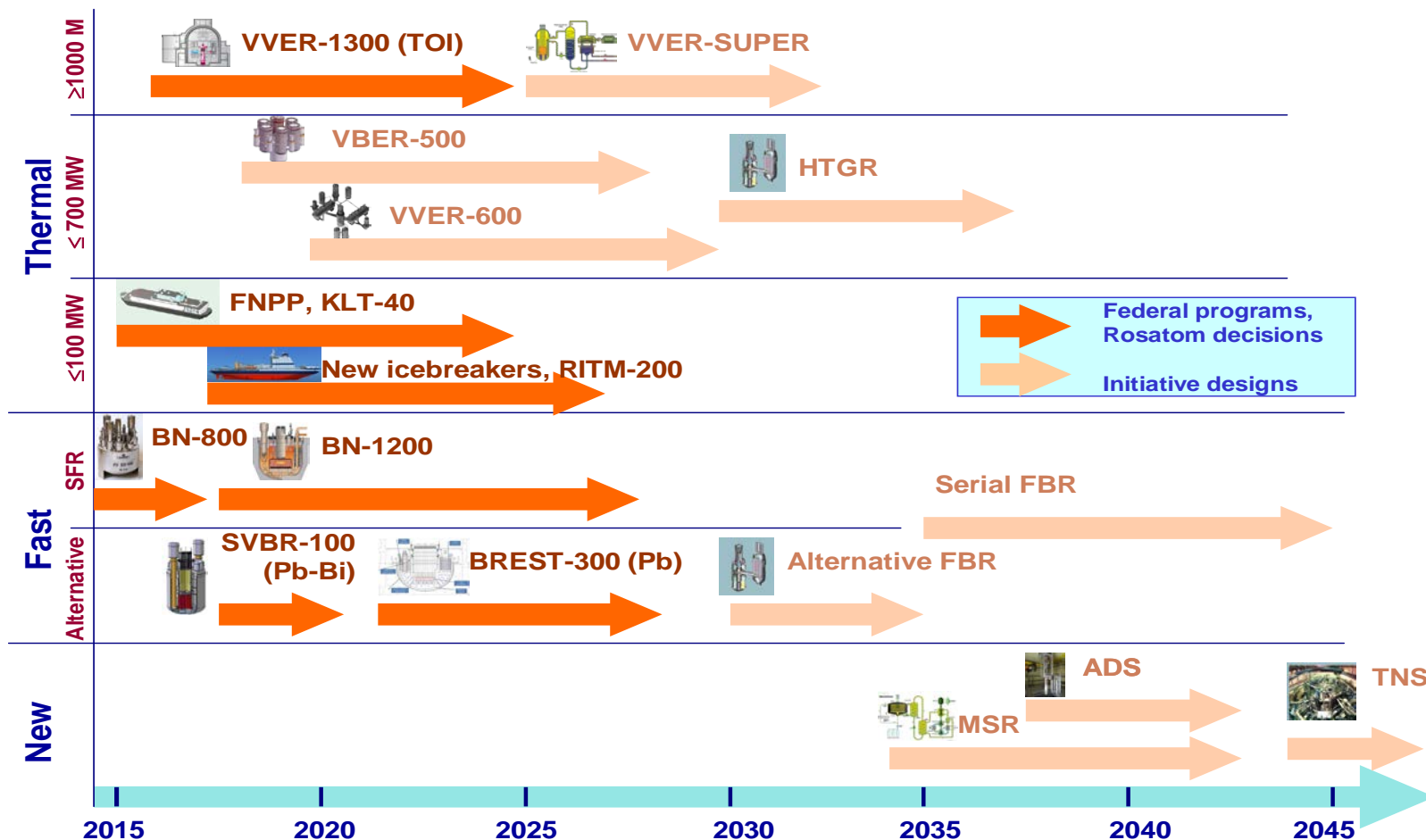




# Spent fuel accumulation in Russia



# Russia's nuclear reactors roadmap



FNPP - Floating Nuclear Power Plant  
 ADS - Accelerator Driven Systems  
 SVBR - Fast lead-bismuth-cooled reactor

MSR - Molten Salt Reactors  
 TNS - Thermonuclear Neutron Source  
 BREST - Fast lead-cooled reactor